

(2) a plate cylinder associated with a blanket cylinder,
said plate cylinder having a flexographic plate thereon;

(3) an anilox roller associated with said liquid supply
coating and said plate cylinder for delivering said liquid coating
to said flexographic plate to form an image for transfer to said
blanket cylinder;

(4) an impression cylinder holding said substrate for
receiving said liquid coating image transferred from said blanket
cylinder and printing said image on said substrate[,];

said at least two flexography stations printing the same
liquid coating image in sequence and in superimposed
relationship; and

at least one offset lithographic printing station [for]
receiving said substrate and printing over said liquid coating
image.

19. (Amended) Apparatus as in claim 17 wherein at
least one of the said colored ink images [are] is formed with a
waterless [inks] ink.

20. (Amended) Apparatus as in claim 17 further
including an air dryer adjacent to said impression cylinder for
drying the colored flexographic ink image transferred to said
substrate before said additional colored ink images are printed
thereon.

22. (Amended) Apparatus as in claim 17 wherein said
colored flexographic ink image and said lithographic colored ink
images are printed as solid colors and/or with halftone printing
plates in sequence and in registry in said successive printing
stations to produce said multicolored image on said substrate.

Please amend the following claims first presented in this reissue application consistent with Rule 121 (b)(2)(i)(c), as follows (areas where these claims have been amended are indicated in the amendment filed April 7, 2000):

44. (Amended) Apparatus for a combined lithographic/flexographic printing process comprising:
a substrate;
a plurality of successive printing stations for depositing a series of images on one side of a substrate in a continuous in-line process: *E*
one of said stations comprising a flexographic printing station for printing a liquid vehicle image on said substrate using a flexographic process; and
at least one of said successive printing stations being a lithographic printing station;
whereby said substrate is printed on top of or on the opposite side of that previously printed at at least one of said successive lithographic printing stations using the lithographic process in said continuous in-line process.

45. (Amended) Apparatus as in claim 44 wherein at least one of said images at the flexographic station is a coating material.

46. (Amended) Apparatus as in claim 44 wherein at least one of said images at one of the lithographic stations is an ink.

49. (Amended) An apparatus for a combined lithographic/flexographic printing process comprising: *G*
a plurality of successive printing stations for depositing a series of images on a substrate in a continuous in-line process;

(B2)
(concluded)

one of said stations comprising a flexographic printing station printing an aqueous-based vehicle on one side of the substrate using the flexographic process to form a metallic coating image;

a suspended metallic material being included in said aqueous-based vehicle; and

at least one of the successive printing stations comprising an offset lithographic printing station printing a color image on top of the aqueous-based vehicle or on the opposite side to that previously printed using the offset lithographic process in said continuous in-line process

(B3)
53. (Amended) Apparatus for creating a combined lithographic/ flexographic printing process comprising:

a plurality of successive printing stations for depositing a series of images on a substrate in a continuous in-line process;

one of said stations comprising a flexographic printing station for printing a first color image using the flexographic process; and

at least one of the other successive printing stations comprising an offset lithographic printing station for printing a second color image on the reverse side of the substrate of the first color image using the offset lithographic process in said continuous in-line process.

(B4)
55. (Amended) Apparatus for creating a combined lithographic/ flexographic printing process comprising:

a substrate;

a plurality of successive printing stations for depositing a series of images on a substrate in a continuous in-line process;

(1) at least one of said printing stations being
flexographic stations and comprising:

(1) a supply of liquid coating;

(2) a plate cylinder associated with a blanket cylinder,
said plate cylinder having a flexographic plate thereon;

(3) an anilox roller associated with said liquid supply
coating and said plate cylinder for delivering said liquid coating
to said flexographic plate to form an image for transfer to said
blanket cylinder;

(4) an impression cylinder for receiving said liquid
coating image transferred from said blanket cylinder and printing
said image on one side of said substrate; and

at least one offset lithographic printing station for
receiving said substrate and printing on top of or on the opposite
side to that previously printed.

57. (Amended) Apparatus as in claim 56 further
including an air dryer associated with each impression cylinder on
each flexographic station, said air dryer having sufficient air
velocity for drying said liquid coating before the substrate is
transferred to the successive printing station in said continuous in-
line process. E

58. (Amended) Apparatus for a combined
lithographic/flexographic printing process comprising:
a plurality of successive printing stations for depositing a
series of images on a substrate in a continuous in-line process,
said printing stations including both lithographic and at least two
flexographic printing stations;

~~a blanket cylinder at at least a first one of said flexographic printing stations;~~

~~flexographic ink-providing means at the other of said flexographic printing stations for applying a flexographic ink to said blanket cylinder to form an image on one side of a substrate; a substrate for receiving said flexographic ink image transferred from said blanket cylinder; and~~

~~at least one subsequent lithographic printing station in said in-line process for receiving said image printed substrate and printing an additional colored ink image on said substrate on top of said flexographic ink image or the opposite side to that previously printed using offset lithography.~~

~~60. (Amended) Apparatus for a combined lithographic/ flexographic printing process for printing a multicolored image comprising:~~
~~a plurality of successive printing stations for depositing a series of images on a substrate in a continuous in-line process,~~
~~said printing stations including both lithographic and flexographic printing stations~~

~~at least one of said flexographic printing stations having:~~
~~(1) a plate cylinder and a blanket cylinder, said plate cylinder including a flexographic plate having an image thereon for transferring a flexographic color ink image to said blanket cylinder;~~
~~(2) an etched anilox roller for applying a flexographic color ink to said flexographic plate on said plate cylinder;~~
~~(3) an impression cylinder in ink-transfer relationship with said blanket cylinder for transferring said flexographic color~~

(concluded)

ink image from said blanket cylinder to one side of said substrate;

and

at least one of said succeeding printing stations being a lithographic printing station using offset lithography for printing additional colored ink images on top of said flexographic ink image or on the opposite side to that previously printed.

b7

62. (Amended) Apparatus as in claim 60 wherein at

least one of said colored ink images is formed with a waterless ink.

b7

63. (Amended) Apparatus as in claim 60 further

including an air dryer adjacent to said impression cylinder for drying the colored flexographic ink image transferred to said substrate before said additional colored ink images are printed thereon.

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65. (Amended) Apparatus as in claim 60 wherein said

colored flexographic ink image and said lithographic colored ink images are printed as solid colors and/or with halftone printing plates in sequence and in registry in said successive printing stations to produce said multicolored image on said substrate.

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72. (Amended) A method of combining lithography

and flexographic printing in a continuous in-line process comprising the steps of:

providing a plurality of successive lithographic/flexographic printing stations for depositing a series of images on a substrate;

(B) 9
(concluded)

printing an image as one of said thin controlled layers on
one side of said substrate at at least one of said flexographic
stations;

transferring said printed substrate to at least one
subsequent printing station in said continuous in-line process; and
printing an image on the reverse side of said substrate
having said flexographic ink image, at at least one of said other
subsequent lithographic printing stations with an offset
lithographic process in the continuous in-line process.

(D)
(E)

78. (Amended) A method as in claim 7 further including
the step of printing an aqueous-based coating over said slurry.

(F)
(G)

82. (Amended) A method of combining lithography
and flexographic printing in a continuous in-line process
comprising the steps of:

(1) providing a plurality of successive printing stations
for depositing a series of images on a substrate in said in-line
continuous process;

(2) utilizing an anilox roller to transfer a liquid ink as
one of said images to a flexographic plate image at at least one of
said printing stations;

(3) printing said liquid ink from said flexographic
plate image to one side of a substrate;

(4) transferring said printed substrate with said liquid
ink image to a subsequent printing station in said in-line printing
process;

- (concluded)*
- (5) repeating steps (2)-(4) at subsequent printing stations in said in-line process to achieve a desired opacity ink image on the one side of said substrate; and
- (6) printing an ink pattern on the reverse side of said substrate using an offset lithographic process.

85. (Amended) A method of combining offset lithography and flexography using a plurality of successive printing stations in a continuous in-line process, at least one of said stations comprising a flexographic printing station for printing an image on said substrate using a flexographic process,

comprising:

- (1) printing an image at one or more of said printing stations on a substrate using an offset lithographic process;
- (2) transferring said image printed substrate to an additional and flexographic printing station and printing at said additional and flexographic printing station a coating on all or part of said image on said substrate;
- (3) transferring said substrate to one or more additional printing stations for printing the reverse side of the said substrate; and
- (4) printing an image on said reverse side of said substrate at one of such one or more printing stations using an offset lithographic process in the continuous in-line process.

86. (Amended) Apparatus for a combined offset lithographic and flexographic printing process comprising:

- (1) a substrate;
- (2) a plurality of successive printing stations for depositing a series of images selected from a group consisting of

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~~(concluded)~~

lithographic and flexographic inks, coatings and slurries on one or both sides of a substrate in a continuous in-line process;

(3) at least one of said stations comprising a flexographic printing station for printing an image on said substrate using a flexographic process;

(4) at least one of said successive printing stations being an offset lithographic printing station whereby said offset lithographic printing station is used to deposit one of said lithographic materials on either side of the said substrate in the continuous in-line process;

87. (Amended) Apparatus for a combined offset lithographic/flexographic printing process comprising:

a plurality of successive printing stations for printing images on a substrate in a continuous in-line process, said printing stations including both offset lithographic and flexographic printing stations for depositing lithographic inks, and one or more flexographic inks, coatings and slurries on said substrate, whereby said lithographic inks, and one or more flexographic inks, coatings and slurries may be printed successively on one or both sides of said substrate in the continuous in-line process.

Remarks

Applicants undersigned attorney or record received the Office Action dated February 8, 2000, actually mailed February 9, 2000. Pursuant to the Examiner's requests, Applicants have amended their specification in the paragraphs at col. 3, lines 53-59 and col. 4, lines 46-51 of their specification and claims 12, 19-20, 22, as well as claims 44-46, 49, 53, 55, 57-58, 60, 62-63, 65, 72, 78, 82, and 85-87 first presented in the reissue. This Supplemental Amendment replaces the